ELM CREEK NEWS

SOIL CONSERVATION SERVICE
DEPT OF AGRICULTURE
PROJECT No. 4

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TEMPLE, TEXAS
JULY, 1935

(4100 Copies of this Issue)

THE COVER

A hundred years ago a pugnacious handful of Anglo-Saxons were settled upon the sod of a tyrannically governed Texas, bent upon the precarious establishment of an agrarian civilization under the noses of hostile Indians. Today these heroic men and women, builders of an empire, live only in legendary memories and the stirring pages of history. Everyone who has thrilled at Travis' immortal "We shall neither surrender nor retreat" has paid an unconscious tribute to all of the hardy Colonel's contemporaries. Thrill-seekers, fighters, they wanted a fight----fought, and won.

We have ill-used their bequest of land. With a characteristic and almost universal carelessness we have allowed an insidious but ruthless scourge to steal the fertility of our soil, yes, even the soil itself from a land won by the blood and strife of heroes. A danger that has out-lived the Indians and is infinitely more dangerous and damaging than their sporadic raids. A force whose weapons are impersonal, all-pervading, deadly----the wind and the rain. A force that rips and tears our land with a Gargantuan knife, but is rendered powerless by intelligent land use. The force, the power, the danger of soil erosion.

We, too, have a fight on our hands, and not one of our own seeking. We fight for self-preservation, for our land, for our homes, for our very existence. A fight that is romantic if not heroic, and whose spoils will be shared with us by future generations. Texas is ushering in a new era in agriculture.

Next year Texas will celebrate its Centennial, its one hundredth year of independence. And on thousands of farms throughout the State the visitors from the far corners of the earth will see that Texans cherish their soil as well as their memories.

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VALUABLE GRASSES OF THE ELM CREEK WATERSHED

Beginning with this issue of the Elm Creek News will be given successive descriptions and sketches of the most important pasture grasses of the Elm Creek Watershed. This feature will be continued throughout the growing period. An effort will be made to show those grasses which are in bloom during the month. We hope this information will prove not only interesting, but will render assistance to cooperators in learning the proper names, something about the life habits, and the value of the grasses found in this region or which, introduced, will grow in this section. Due to the highly technical character of the terms used by botanists in describing grasses, an effort will be made to simplify the descriptions so that everyone can readily understand them. We suggest that you save the sketches and descriptions for future reference.

BUFFALO GRASS. Scientific name: Bulbilis dactyloides. See Figures 1 and 2. This grass is commonly called MESQUITE GRASS in this section. This is incorrect as Mesquite grass differs from Buffalo grass in some very important respects. Both are short grasses with the blades close to the ground and both have creeping runners, but Buffalo grass has two different kinds of plants. The first is the female plant shown in Figure 1. The seed bearing flowers are borne in short cluster, partly hidden among the leaves. These flowers are quite inconspicuous and produce a seed which is about a quarter of an inch long. It has a tough outer covering which, when torn apart, contains a few tiny sandy colored kernels. All of the flowers on the female plant will be females only. If a female plant is dug up and transplanted, the runners which it sends out will always produce only female flowers.

The male plant is shown in Figure 2 and differs from the female in that the male, or pollen bearing flowers are borne on stems which extend up and above the blades. These are quite easily seen. The male flowers produce the pollen which fertilizes the female flower. The male flowers never produce seed and it is useless to gather these heads in the hope of finding seed. If it is desired to propagate Buffalo grass, the seed must be gathered from the female plants. Just as in the case of the female plant, the male plant never has anything but one kind of flower--the male flower.

There is one exception to the above. If the seed is planted, both kinds of flowers will be produced, but on separate branches. These branches will extend out and will always produce the same type of flowers. If, for example, one of these branches is producing male flowers and is cut off and transplanted, all of the flowers produced from the new plant will be male in every case.

Referring back to Mesquite grass, we find that conditions are just the opposite. The male and female flowers of Mesquite grass are not only borne on the same plant, but on the same stalk. For this reason it is easy to distinguish the two plants. There is practically no Mesquite grass in this section, that which does grow being confined to the western part of Bell County.

Where Buffalo grass will do well, it is hard to beat as a pasture grass. It does best on light, dry soil and resists droughts to a

VALUABLE GRASSES OF THE ELM CREEK WATERSHED

BUFFALO GRASS
(Bulbilis dactyloides)

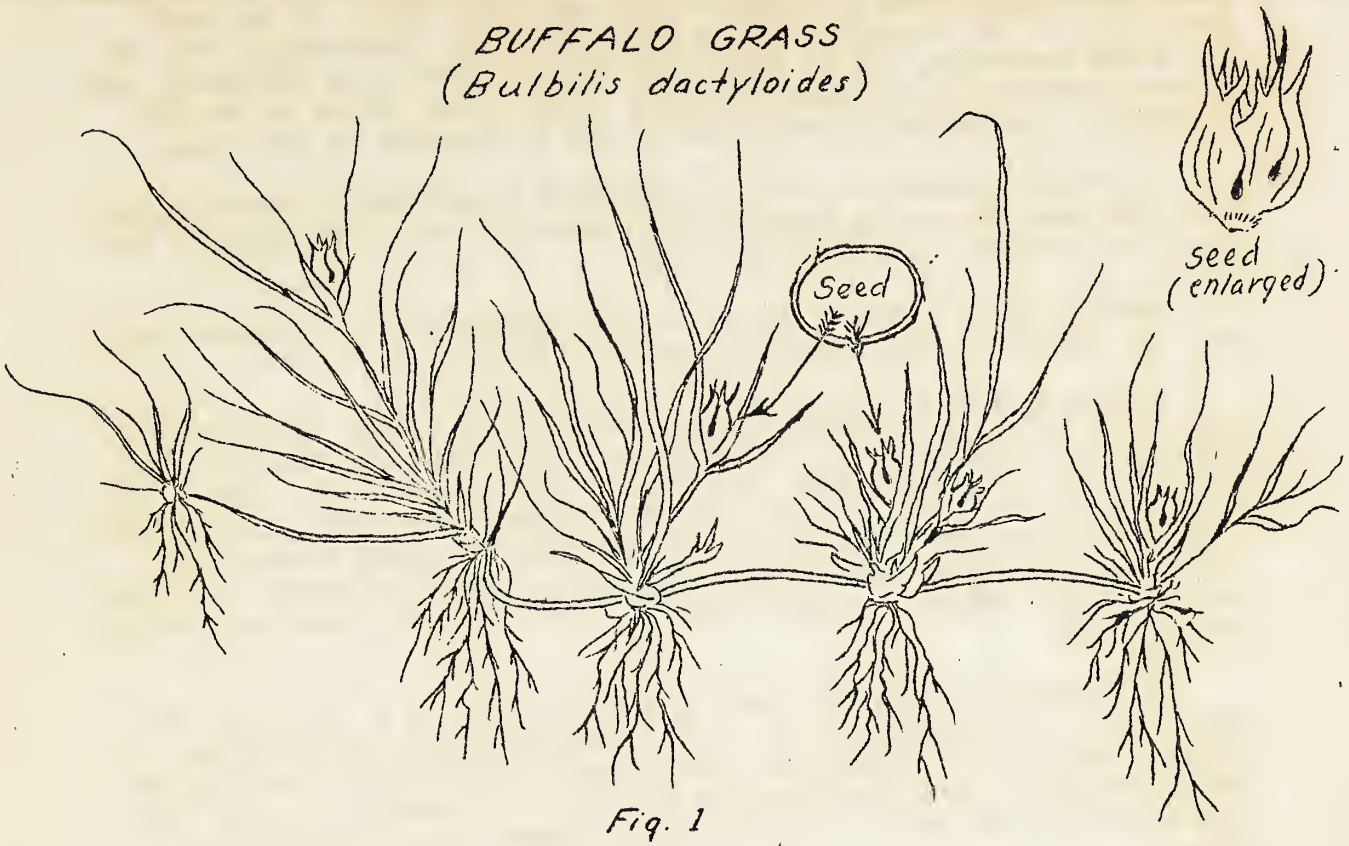


Fig. 1
Female Plant
(Seed bearing)

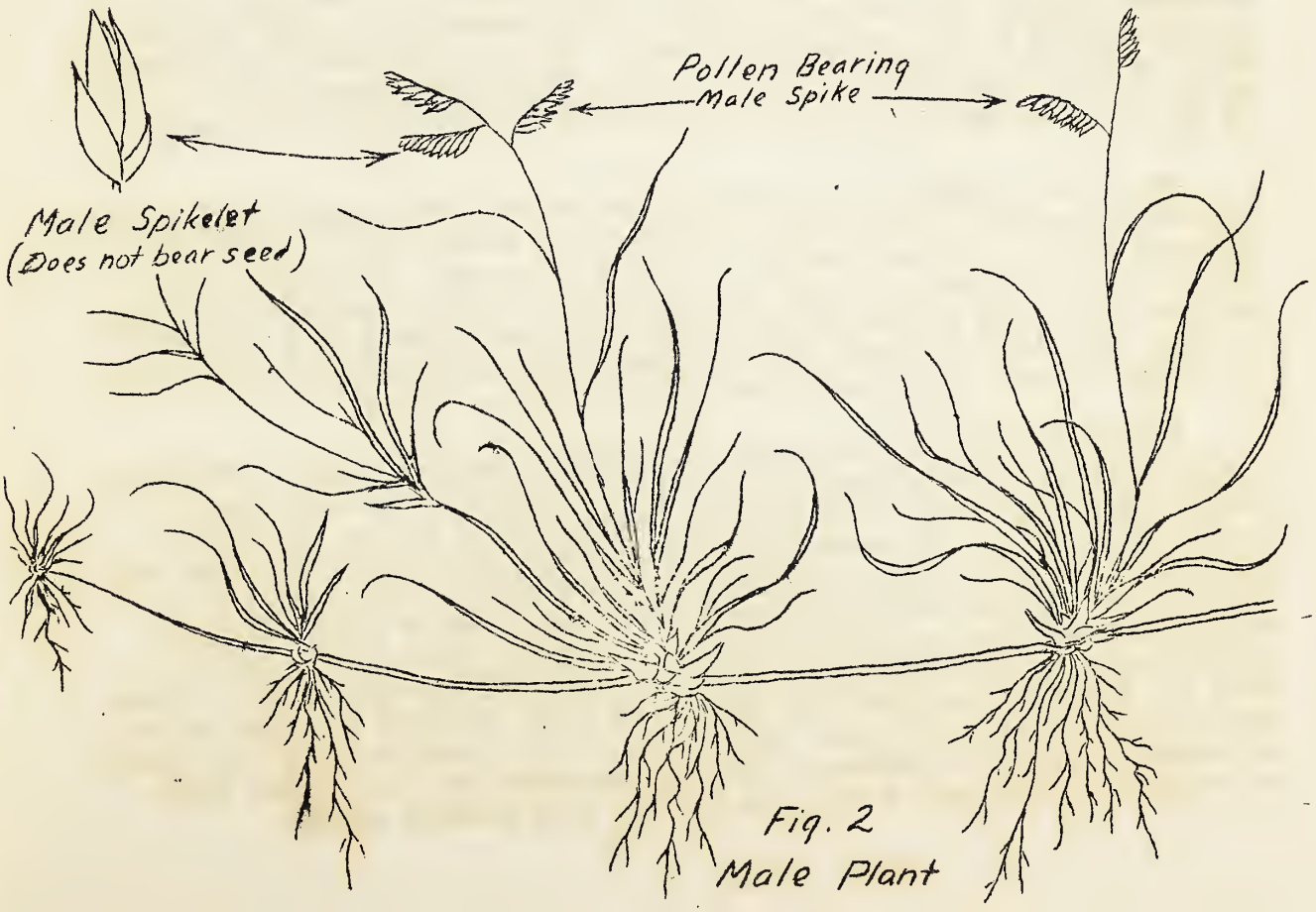


Fig. 2
Male Plant

remarkable degree. It resists fairly heavy grazing, cures well on the stalk and will freshen up quickly after any light rain. It is found from Texas to the Canadian Border, and west of the Mississippi River to the Rocky Mountains. It is common all over the Elm Creek Watershed, but is more abundant in the northern part. There is no danger of it ever becoming a pest as it is easily killed out by breaking up the land.

It takes a number of years to establish a new Buffalo grass pasture. This work can be done by transplanting pieces of sod or by planting the seed in a carefully prepared seed bed.

Buffalo grass pastures should not be over-grazed and the weeds which come in should be mowed until they are eradicated.

DALLIS GRASS. Scientific name: Paspalum dilatatum. See Figure 3. This grass is common in the eastern part of the State where rainfall is 30 inches or over. The seeds are borne on the end of a long stem. This stem usually extends for a considerable distance above the leaves, which, in this section, are usually close to the ground. Young Dallis grass plants, growing here, appear very similar in general appearance to Johnson grass, but of course Dallis grass does not have the long underground root stocks.

The seed-head of Dallis grass usually has from 3 to 10 short side branches as shown in Figure 3. A close examination of one of these branches will show that the seeds are borne in two rows on one side of these branches. Incidentally, this branch is flattened. The seed itself resembles the seed of tomato plants, though smaller and not as plump.

Dallis grass is a perennial and in this section is inclined to be somewhat bunchy. It does not produce a solid stand. As a rule it starts growth earlier in the spring than Bermuda and under favorable conditions will remain green until late in the fall. It is more susceptible to frost than Bermuda. It is a heavy producer, and livestock are very fond of it.

There is a question as to whether we can grow this grass successfully over the Watershed. It is better adapted to a heavy moist soil which is not common here. We have tried seeding it in several localities, but so far have not had much success. The seed do not always germinate readily. In some cases they remain in the ground for a year before they start to sprout. It would seem that our best chance for establishing Dallis grass is on the heavier, moist soil along creeks and in bottoms.

ITALIAN RYE GRASS. Scientific name: Lolium multiflorum. See Figure 4. Italian Rye grass is an annual grass which was introduced into Texas as a winter lawn grass. It is a winter and early spring grass. It should be seeded in the fall and if rainfall is favorable, will start growth as soon as the weather gets cool, and will continue growth as long as there is moisture present and until the first hot days of summer come. It is a heavy producer of good, palatable forage, readily eaten by all classes of livestock. It rarely winter-kills in this section, but should a frost kill it, it can be replanted in January or early February and will produce satisfactorily with sufficient rainfall. It is a very rapid grower. Being an annual, it must be protected from grazing when the seed stalks begin to mature or there will be no seed for the next seasons growth.

VALUABLE GRASSES OF THE ELM CREEK WATERSHED

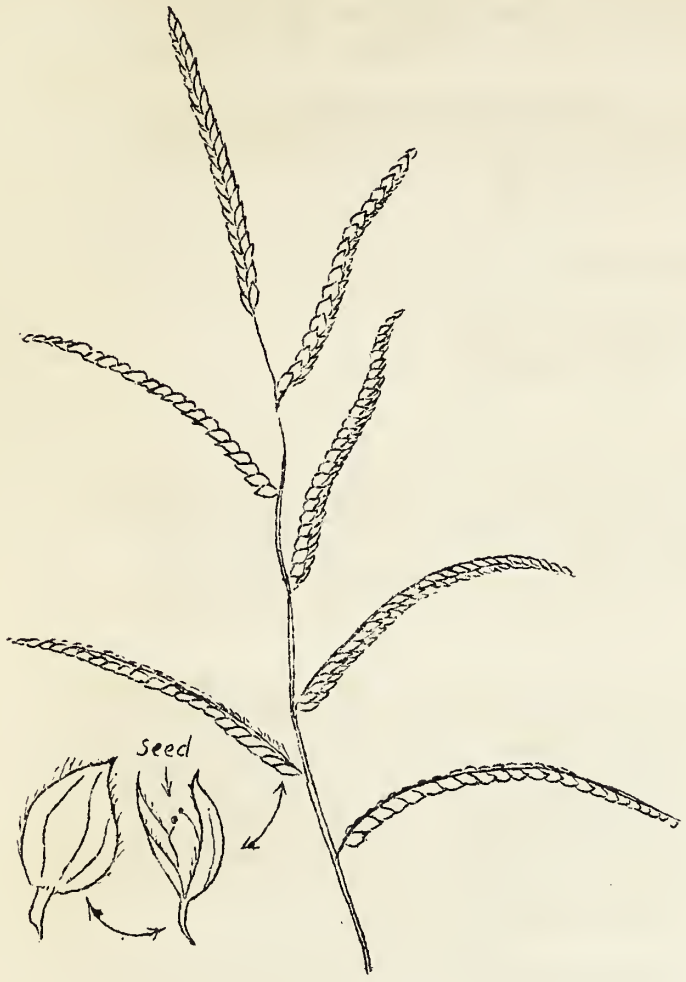
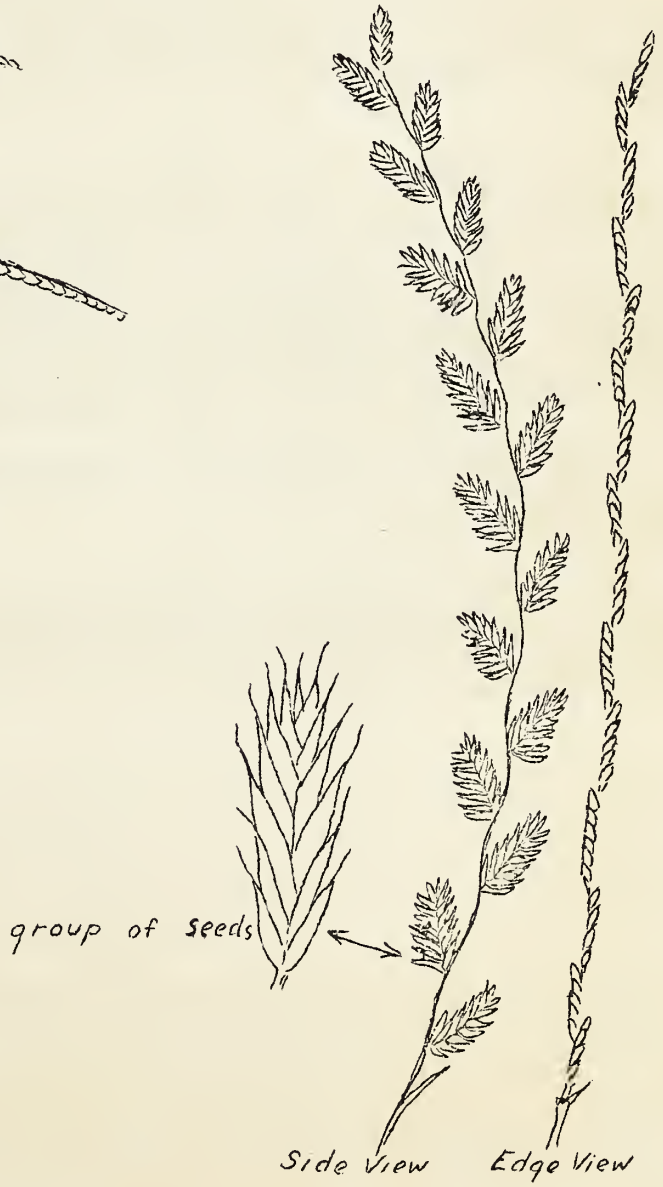


Fig. 3

DALLIS GRASS
(Paspalum dilatatum)

Fig. 4.
(Below)
ITALIAN-RYE GRASS
(Lolium multiflorum)



Italian Rye grass is easy to recognize when in bloom. The heads are very prominent as they extend quite a distance beyond the leaves. They are characterized by being decidedly flattened(see illustration). The seeds are borne in flattened groups called spikelets which are set edgewise to the stem. The leaves are of a yellowish green color.

Italian Rye grass is one of our most promising winter grasses in this section. As stated above, however, it must be so handled as to assure seed production for the following year.

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ANNUAL FIELD PROGRESS REPORT
Co. #1829, Temple, Texas

Field work began on May 7, 1934. During the period of May 7th to June 1st, 1934, work was done in the controlling of gullies and sodding of pastures. During this time, sixty-eight acres of submarginal land were revegetated, fifty-four thousand seven hundred linear feet were planted for bank protection, and fifty-seven wire and stake dams were built.

On the first of June, concrete work was started. Between this date in 1934 and the same date of 1935, the company constructed fifteen hundred seventy-three permanent concrete terrace outlet and gully control dams. Of this total, ninety-three were of the sack type, one hundred twenty-five of concrete block or combination block and formless concrete, and the remainder, thirteen hundred fifty-five, were built of formless concrete. The size of these check dams was varied. The largest, a sack dam, required nine hundred sixty-five large sacks filled with concrete.

Additional to the above, five concrete tanks for experimental work were constructed at the Experiment Station. There was also built one sixty-foot road dip.

The material used in the work for the year was as follows: 14,670 sacks of cement, 3,507 yards of gravel, 76,470 linear feet of 26-inch reenforcing wire, 55,109 linear feet of 3/8-inch and 1/2-inch steel reenforcing bars, and 21,109 sacks.

W. J. Doane, Supt.
SCS-1-T
Temple, Texas.

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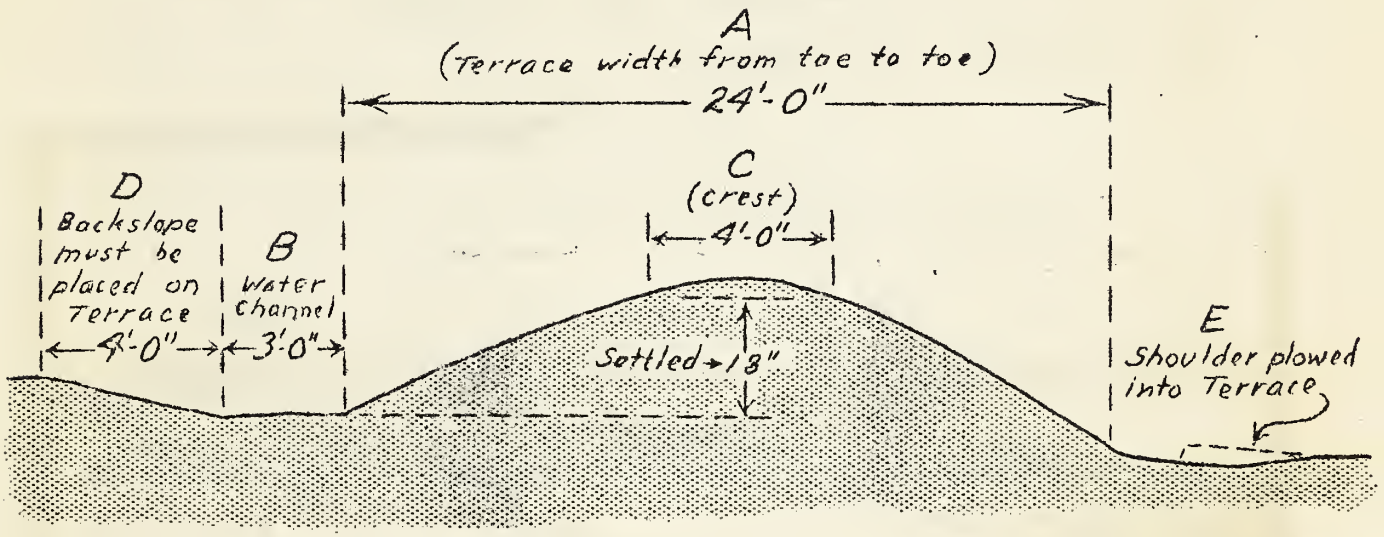
MAINTENANCE OF TERRACES

Now that broadcast feed crops are being harvested from the terraces, it is well to think of terrace maintenance. Terraces built this past year have settled, and in many places there has been considerable silting in the water channels.

A good method of maintenance is to plow the terraces with a moldboard or disc plow making the first furrow near the top of the terrace ridge, throwing the dirt to the crest. After terraces are plowed full width, the dirt in the water channel should be pulled up on the terrace ridge. This can be done with a terracing machine or a V drag. Wide terraces with broad crests are more easily cultivated than narrow terraces. Therefore, it is well to widen the terrace at each maintenance operation. All low points along the terrace crest should be built up with a fresno or slip.

Below is an illustration of a terrace which, in this area, has been found to be very suitable in size for either row cropping or for broadcast cropping.



The line A represents the width from toe to toe(24 feet) of the terrace mound. B represents terrace channel on the upper side of the terrace. The channel should be at least 3 feet wide. The greater the width of the channel, the greater will be the water carrying capacity, and, it follows, the greater the efficiency of the terrace.

By spreading the runoff water of a terrace in a wide channel, the velocity of the water is cut down, thereby causing loss erosion. C represents the crest of the terrace. The crest should be at least 4 feet wide, and 18 inches higher than the water channel. B, after the terrace has settled. D represents the shoulder on the top side of the terrace. This shoulder should be backsloped to a distance of at least 4 feet, and the dirt pulled over on the terrace mound.

E represents the shoulder on the lower side of the terrace. This shoulder should also be plowed off where the cut was made with the grader, so that the dirt may aid in filling the depression on the lower side of the terrace.

We now have terracing machines available for cooperators. It would be well to begin this maintenance work at your earliest opportunity.

PLOWING TERRACED LAND

In plowing land that has been terraced, it is important to plow the land in such a way as to maintain the terraces.

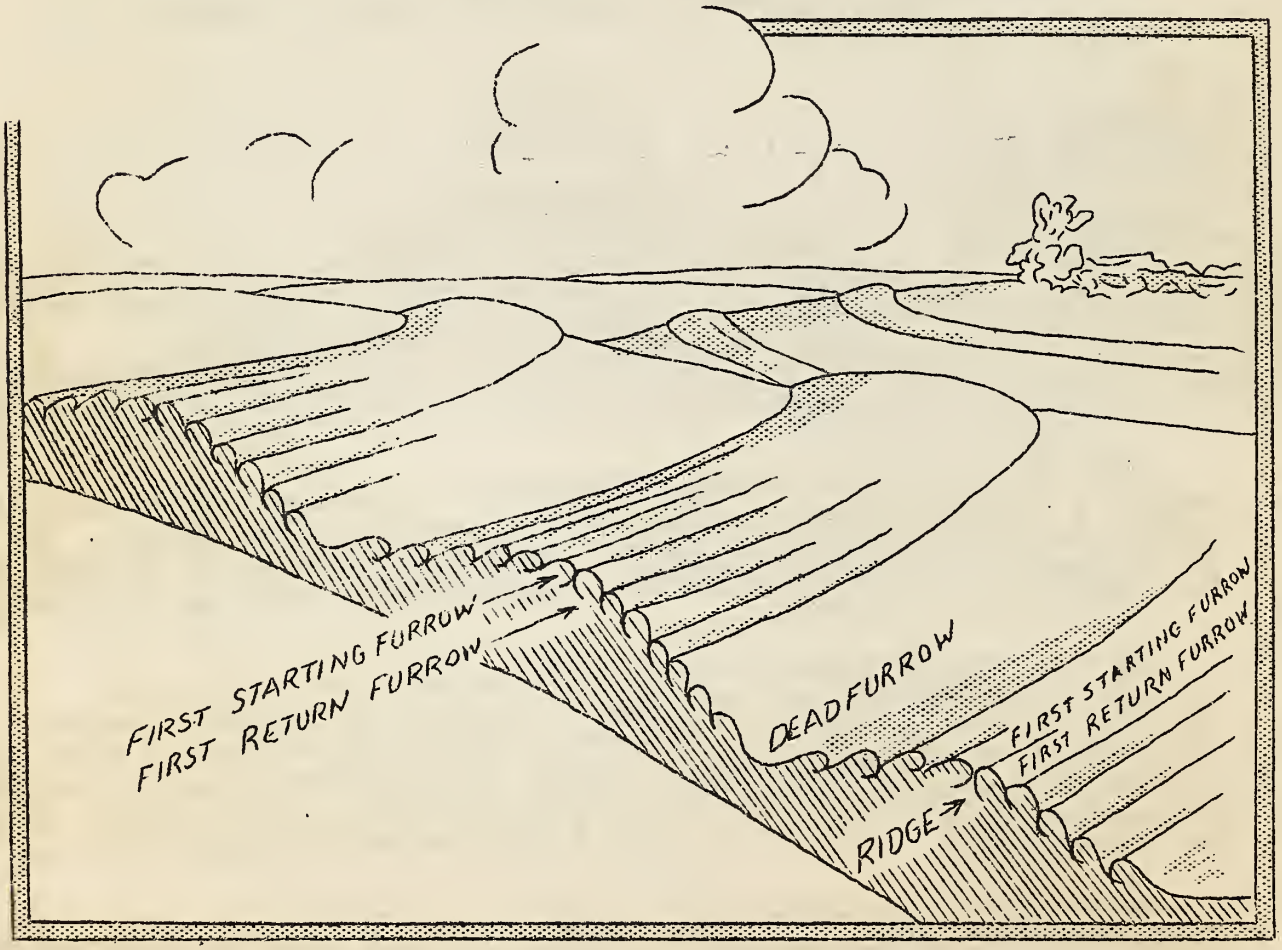
In order to keep your terraces effective and doing their proper work, many of them need maintenance which this method of plowing will help.

The plowing is started on the upper side of the terrace and the first furrow thrown on top of the terrace ridge. On the return trip through the field which is on the terrace above, the first furrow is thrown up on the terrace ridge from the lower side. (See Diagram)

Thus, the plow land is laid out between two terraces.

At later plowings the terrace may be made a head land and the dead furrow will not come the same place each plowing.

-Dale E. Springer - Zone Engineer.



Taken from July issue of Tarkio Creek Area Newsletter, Shenandoah, Iowa.

UTILIZING THE FEED CROP OF 1935

With scarcely an exception, the farms of the Elm Creek Watershed are harvesting the best feed crops that have been produced in many years. While the acreage of oats was materially lowered by the January freeze and the quality and yield of the grain lowered by the continued rains and rust prevalence, the crop has boosted the available feed supply considerably.

The rains were highly favorable to corn and other feed crops which are yielding unusually good over this area. Estimates on corn yields vary from 35 to 50 bushels per acre, but yields above 50 bushels per acre will be common on small acreages. The acreage planted to corn this year is about 8 percent above 1934 acreage and with the good yield will bring an unusually large supply on farms this season.

It is evident from the stacks of red top hay and hegari shocks in fields that grain sorghums are also making good yields. These crops promise yields of 3½ to 5 tons per acre, while (milo) maizo should yield 1½ to 2 tons of heads per acre. In the case of these crops, also, farmers as a whole have planted heavier acreages than usual, due to the acute shortage of feeds on hand at planting time, and the continuation of the cotton acreage reduction program. The net result of the larger acreage planted to all feed crops and the highly favorable growing season is that the feed supply on farms of the watershed is approaching super-abundance - at least, more than can be consumed in all probability, within the next 12 months.

The numbers of livestock on these farms, are less than a year ago and the possibilities of utilizing these feeds are rather limited. The widespread destruction of cattle in drouth areas during 1934 has decreased the average number of animals per farm. Likewise, the corn-hog reduction program has brought a material drop in the numbers of pigs and hogs under 6 months of age. On the few farms of the area where sheep were kept the number, also, has been reduced.

From figures recently gathered in the Elm Creek Watershed, it is estimated that from 1400 farms included, 600 work mules have left the farms. Some farms have been at least partially farmed this year by the 125 tractors purchased by as many farmers since October 1, 1934. The feed from some 2000 acres that normally would be consumed by this number of mules will be available for other uses during the next season. However, farm workstock, generally, have been poorly fed during the past winter and spring, which has resulted in a weakened condition of these animals. With a prospective continuation of terracing and related heavy draft work on these farms, the need for some extra feed for reconditioning farm mules during the next few months is quite obvious. Many farmers have been unable to complete their terraces and fills because of the weakened condition of work-stock resulting from short feed supplies on the farms.

Aside from the better feeding of farm work-stock, there are some possibilities of farmers increasing the average income by diverting larger than normal amounts of feedstuffs to their most promising livestock enterprises. The greatest outlet is offered by the farm poultry flocks on the

average farm of this immediate vicinity. Beef or pork production probably would offer this advantage if the normal number of these animals were available for feeding.

Pointing to the comparative favorable position of poultry and eggs is the index of prices given in the Agricultural Situation (official publication of the U. S. D. A., Bureau of Agricultural Economics) of July 1, which shows better relative prices have prevailed from September, 1934, to June, 1935, than during any similar period since 1930. The average monthly index of prices paid for poultry and eggs during this period is 111, based upon a pre-war figure of 100, and the index for June, 1935 is 108. Prices paid for dairy products as reflected by this index were 108 from September, 1934 to June, 1935, and stood at 100 for June, while for meat animals the average for the 10 months was 97 with the June index increased to 119.

In this area the production of eggs is of much greater economic importance than production of poultry for meat purposes. The outlook for continued good prices for eggs is encouraging since the number of laying hens and pullets on farms January 1, 1935, was almost 10 percent lower than in 1934. Cold storage holdings of eggs on June 1 were 16 percent lower than a year ago, and 13 percent less than average of recent years.

To reap the maximum advantage from the better eggs prices, farm-wives should spare no effort toward increasing the egg production of the individual farm flocks. The pullet crop is a large factor in the potential egg production for the high-price months, November to February. These pullets should be so fed and handled so to produce birds of sturdy, well-developed bodies. Plenty of grain is essential in their ration, as well as ample green feed during the remainder of the summer and fall. If no growing mash or protein supplement (meat scraps or tankage) is fed, plenty of skimmilk or curd should be supplied the growing pullets. These young birds should be provided with comfortable roosting quarters during the hot weather and not allowed to crowd into small chick pens and poorly ventilated coops, after developing in size.

Proper care certainly must be exercised to guard against disease and pest outbreaks. Destruction of litter and thorough cleaning of the house and runs at regular intervals goes a long way toward preventing such outbreaks. To combat "blue bugs" a spray mixture can be economically prepared from the following ingredients:

1 part carbolineum (secure at lumber yard or seed store)
2 parts kerosene

Mix these materials and spray over surface and into cracks of coops, nests, and house, being careful to avoid getting the carbolineum on bare skin. Complete elimination of the fowl tick or "blue bug" depends upon a general clean-up. Where chickens roost in trees, or fences or in barns, the bugs will be found in crevices, under bark, etc., and these conditions must be met by making the chickens roost in the hen house.

The old hens should not be neglected during the summer and on into the moulting season, simply because they are not yielding any income. Plenty of grain should be kept before them as their condition of flesh determines largely the growth of new feathers which precedes return to

egg production. Some culling might well be done at this season to eliminate many of the poor producers. Additional information on poultry management, home-mixed rations, etc., can be secured from Mr. S. L. Adams, teacher of Vocational Agriculture, Temple High School, from your County Agent, or by writing the extension service, College Station, Texas.

While the outlook for turkey and capon prices is not as favorable as for market eggs, some grain might be utilized for the production of capons (from heavy broods) for the mid-winter market. If young cockerels, under 1-3/4 pounds are caponized, then fed out for several months, the chances are that the price received will yield some return on the feed consumed. With shortages of beef and pork, the demand for this type meat may be greater than usual this winter. Prices for capons in January and February usually range from 8 to 10 cents per pound above prices paid for hens at that time, according to Mr. S. L. Adams of Temple. Mr. Adams states that he is willing to assist farmers in learning to caponize or to solve any problems in care and feeding of poultry.

With a decrease of 20 percent, in the number of pigs farrowed last spring and a marked reduction in the number of hogs 6 months old, on farms June 1, pork production is unlikely to be an outlet for the use of any great quantity of the large corn crop soon to be harvested in the watershed. Indications are that the number of sows that are to farrow this fall will be up 19 percent; if this is true, the situation likely will change some before the spring of 1936.

As emphasized by H.H.Williamson, director of Extension Service at the A & M College of Texas, in a statement made at a recent conference, farmers should finish animals well before marketing or killing them this fall. With a limited number of animals to feed, the maximum advantage of top prices should be sought through proper finishing of all animals marketed. It has been found that a few farmers in the Elm Creek area market a considerable quantity of lard and bacon each year, having produced more than was required for home consumption. This year should offer an excellent opportunity to increase this source of income, since larger and more thoroughly finished animals can be obtained through a longer feeding period.

Judging from the number of animals on farms and the amount of meats in storage, prospects point toward favorable beef prices during the next few months. There was a 12 percent decrease in the number of animals on farms January 1, over a year ago, and a 30 percent slump in the quantity of all meats in storage June 1 over the average at this season of the year from 1929-33. This country has imported much greater quantities of fresh meats this year than average, there being an increase of 190 percent in such imports since July 1934, over the same period the previous year.

In instances where farmers have yearling steers or other animals suitable for beef production, these should yield a good return on feeds used judiciously in finishing them. It is unlikely that prices of live cattle will be low enough to enable farmers to buy, in any quantity, young stock for feeding out, since the feed on each farm is likely to make a strong bid for animals through which it might be marketed.

It is felt that the average farmer can well afford to utilize some hay and coarse roughages in the production of either whole milk, sour cream, or butter for market. On many farms some time would be well spent in making improvements about the farm and cow lot as to feed stalls, surface drainage and the like. A little better protection during bad weather, together with a reasonably dry floor is highly worthwhile from the standpoint of both man and beast. Better feed troughs and racks should be provided on many farms in order to minimize the wastage of feeds. An abundance of feeds does not warrant malicous wasting as a result of careless handling or poor feeding facilities when a small investment in time and a little material would stop this loss.

Cotton Insect Observations

There has been a great amount of damage done to the cotton crop this season by the cotton flea hopper. At this time it is considered the major cotton insect pest in this area. It can and has been economically controlled this season with applications of sulphur. For best results, the applications of sulphur should be applied early in the season to insure the setting of a bottom crop. The time to begin control is when an inspection of a hundred plants in several representative areas of the field show as many as twenty-five cotton flea hoppers per hundred plants. Under normal flea hopper conditions three applications of fifteen pounds per acre at weekly intervals should give satisfactory control.

Cotton boll worms are causing some damage and in some fields are numerous enough to warrant control measures. The boll worm can be controlled with applications of calcium arsenate if applied properly and at the right time, though they are not as easily controlled as some of the other cotton insects.

The first cotton leaf worms were found in the Elm Creek area on July 8, and if conditions continue favorable for their increase, they are expected to show up in sufficient numbers by the middle of August to warrant control measures. The cotton leaf worm can be controlled by applications of calcium arsenate at the rate of about 4 to 6 pounds per acre applied in the dust form. Under favorable conditions one application of calcium arsenate will give satisfactory results.

Plowing Under Sorghum Stubble

The large acreage planted to grain sorghums and sweet sorghums this year gives rise to a greater problem of stubble breaking.

The stubble may be turned under after the first crop is harvested or it may be turned under after the second crop comes off. In either case the stubble should be allowed to stand until a new growth comes out and reaches a height of 18 to 24 inches before it is turned under. Turning this green crop under adds organic matter to the soil, thereby retaining more fertility and also increasing the water holding capacity of the soil.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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